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POST-FEBRILE INSANITY.

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In view of the fact that within the past five years the subject of post-febrile insanity has excited renewed attention and elicited discussion, I have deemed it proper to present the salient aspects of this form of disease in lieu of a report covering a wider range of psychological medicine.

The topic is not a new one. Chomel,¹ 1834, spoke of it as a derangement of the mental faculties which might take the form of mania and disappear with convalescence, or might assume a severe type with an uncertain result. Esquirol,² 1839, thought that fevers of a low character left after them a chronic delirium which ought not to be confounded with mental alienation, but which, from his description, could really have been nothing else. Simon,³ 1844, reported several cases of insanity following typhoid fever, and considered that insanity was developed during the first days of convalescence and was probably a continuation of the delirium. Sauvet,⁴ 1845, gave many illustrative cases which he analyzed carefully and described very clearly. Thore,⁵ 1846, also observed and reported at length a number of cases. Baillarger, in 1865, thought that fevers produced insanity in two ways: by their effect upon the nervous system, and by the anæmia which they caused. Clouston,⁶ 1883, regarded post-febrile insanity as due to an exhaustion of vital powers caused by zymotic diseases analogous to the nervous affections of childhood. Wood,⁷ 1889, "believed that although insanity

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following acute disease varies greatly in its symptomatology, in almost all cases there is one common fundamental brain condition, and this fundamental brain condition bears no specific relation to the disease which has produced it, but may be the outcome of an altered nutrition which is produced by an exanthematous disease like typhoid fever, or by a diathetic disorder like rheumatism, by an accidental traumatism or by a surgical operation," and he thought "there are etiological and symptomatological reasons for believing that insanities after acute disease are identical in their nature." He argued further that if the insanity has a specific relation to the poison of the disease there must be half a dozen specific insanities connected with acute diseases—a supposition which he regards untenable. Hence, he proposed the term "confusional insanity" to cover the whole group of mental diseases which he regarded as due wholly to the exhaustion of the nervous system from shock or wasting disease. Korsakoff,⁸ on the other hand, regarded a similar condition as due to a poison, acting in some cases upon the peripheral nervous system, and in others upon both peripheral and central nervous systems.

However desirable it may seem to simplify the etiology and symptomatology of this group of diseases by thus ascribing them to a single cause, and to class the manifestations together as "confusional insanity," it seems illogical to do so for sake of convenience merely, if thereby conditions are blended which are not identical and causes are mingled which are distinct. Hence, I shall not hesitate to consider these cases as of a three-fold character, viz.: 1. Those developing from shock. 2. Those developing from specific poisons. 3. Those developing in consequence of anæmia and nervous exhaustion.

1. *Insanity Developing from Shock.*—Under this head we have cases of confusional insanity which are due to surgical operations, childbirth, the puerperal condition, etc. Here we have a history of great mental strain or anxiety, sleeplessness, delirium, hallucinations of hearing or sight, delusions of apprehension, and often great mental disturbance. The insanity develops suddenly as a rule and runs a rapid course, generally terminating in recovery, but sometimes in death or chronic insanity. In my experience, the symptoms are usually more active in these cases and there is an absence of fixed delusions.

2. *Insanity Developing from Specific Poisons.*—Under this head are comprised the delirium of fevers, both inter mittent and exanthematous, of pneumonia, of uræmic poisoning, the transient insanity of influenza, the mental confusion of multiple neuritis, the delirium of iodoform, salicylic acid and chronic alcoholic poisoning and the delirium of puerperal fever. In this group of cases we have a poison acting directly upon the central or peripheral nervous system, producing an intoxication, as shown by confusion of ideas, incoherence and a more or less rapid flow of thought. This poison may be of the nature of uræmia or of some of the toxic albumens—which Welch has shown to be produced in pneumonia and diphtheria, which possess a special toxicity to the nervous system—or an intoxicating drug which has a prolonged action. These poisons produce an active delirium which is generally self-limited and disappears when the exciting cause is removed and the period of convalescence is established. This condition should not be confounded with the next condition.

3. *Insanity Developing from Anæmia and Nervous Exhaustion.*—Under this head we have an insanity which arises secondary to the fever and is to be regarded as the expression of an exhausted physical state. Here we have delusions of fear and apprehension, hallucinations of sight and hearing, perversions of taste, of cutaneous sensibility, and frequently progressive stupidity and mental impair-

ment. I would not be understood to assert that the delirium which is developed during the active stage of typhoid fever may not give rise to impressions which are retained in the subsequent stage of the disease when post-febrile insanity develops. I believe such to be the case many times, especially in those patients where a hereditary tendency exists to mental disease, or where there have been relapses or a tedious convalescence. The exact predisposing causes of the original delirium are not clearly known. In some excitable organizations, the quickening of the brain circulation, which results from any fever, produces an immediate delirium. This is true of children and those who retain a brain excitability analogous to that of childhood. It is peculiarly evident in some persons suffering from intermittent fever, who invariably have a delirium during the hot stage. In these impressible organizations, it is not strange that delirious conceptions, formed during the fever, should impress themselves vividly upon the brain and give rise to fixed delusions in the latter stages of the disease. It is not difficult, however, to perceive that in post-febrile insanity a new condition is present which has been grafted upon the original delirium, and which, while it may be moulded into the form which the delirium has made ready for it, is essentially a new condition. I think I can render my meaning clearer by briefly citing cases illustrative of the three conditions above referred to.

CASE I.—*Maniacal Excitement following Removal of Diseased Ovaries.—Incoherence lasting several months.—Ultimate Recovery.*

E. A., female, farmer's daughter, age 28, was operated upon at the Johns Hopkins Hospital for the removal of two diseased ovaries. The operation was rapid and uncomplicated, and she made an excellent recovery. The sutures were removed upon the eighth day and the wound was found to have healed perfectly throughout. She displayed at this time irritability, but no other symptom of mental disease. On the tenth day she became loquacious and spoke of her remarkable recovery and of her freedom from pain, and was manifestly elated. Upon the sixteenth day, actual maniacal excitement developed. She laughed at trifles, talked foolishly, and was incoherent. Her excitement continued to increase until she became noisy at night, violent and destructive. She got no rest except under the influence of hypnotics. At the end of six weeks she was removed to an asylum for the insane, where her excitement continued for a number of months, but gradually subsided, and a complete recovery took place. The patient had always been nervous and excitable, but had never before shown any mental derangement.

CASE II.—*Insanity Developing from Pneumonia with Systematized Delusions Originating in the Delirium of Fever.—Recovery.*

E. S. S., female, age 35, merchant's wife, had an attack of pneumonia in 1869, accompanied by a high grade of delirium. During her delirium she had hallucinations of both hearing and sight, and was much excited by the presence of her husband, and also of her nurse. When the pneumonia subsided, she was confused, suspicious, lacking in ability to fix her attention and with definite delusions about her husband. For a long time she was unable or unwilling to give utterance to them, but, finally, she detailed them at great length and with considerable fullness of detail. She believed that her husband during her illness had improper relations with the nurse in her presence. These ideas were retained for many months, and her feelings towards her husband became so bitter it was necessary to place her in an asylum for the insane. For a long time she continued confused, suspicious, and influenced by delusions, but at the end of a year her morbid sentiments disappeared and she became affectionate towards her husband, but easily confused and fatigued. She often referred to her delusions

as a horrid dream and fully realized their morbid character. Her convalescence was fully established in 1870, and since that time—a period of twenty-two years—she has been perfectly well.

CASE III.—*Melancholia Developing during Convalescence from Typhoid Fever.*

The following case, reported by Dr. Thayer, of the Johns Hopkins Hospital, furnishes an excellent example of true post-febrile insanity. The patient, a male, age 29, with no history of hereditary tendency to insanity, but with a history of alcoholic excess, was admitted to the Johns Hopkins Hospital September 24th, 1891, with the statement that he had given up work three weeks before on account of headache, general pains and moderate diarrhœa. His appearance and history indicated that he was in the third week of typhoid fever. He was put upon liquid diet and given baths at a temperature of 70°F., every three hours, whenever his body temperature went above 102.5°. The temperature pursued a steadily downward course, only four baths being called for, and after September 28th became practically normal. On October 8th, the patient having had eggs before, had milk toast and soft solids added to his dietary and was allowed to sit up in bed. On the evening of October 10th, he appeared for the first time nervous and anxious about his condition. He asked if he were very ill and whether there was any chance of his recovery. His anxiety was made light of and when asked the origin of the ideas he said that one of the patients told him he was very ill. On the 11th, he was given, for the first time, meats, and was allowed dry toast with baked potatoes, but on this date he was more anxious about himself and seemed convinced that he was in a critical condition. On the 13th, his physical condition having steadily improved, the temperature having been normal for 15 days, and the diet having been increased to nearly normal proportions, he was allowed to sit up for a short time out of bed. On the same evening he was found to be in a very nervous condition. He was despondent, weeping, and, when the physician came by, seized his hand and begged him to save him. He declared that he had seen the head nurse read the order that he was to be cremated that evening, and had also seen her receive the announcement that the box in which the operation was to be performed had arrived and was stored in the room below. He could not be convinced of the absurdity of his ideas. On the following day I saw the patient and suggested that he should be kept in bed. The condition was not materially changed; he was tearful and very much alarmed about himself. He insisted that the head nurse had told him that he was to be cremated because he had acquired syphilis, which he denied, and his only request was always that he might be saved. On the following day he seemed rather better, and appeared a little ashamed of the ideas which he had had on the day before, but he soon went back into his former condition. From this time on until the 26th of October, when he was discharged from the Hospital with the hope that a change of surroundings would relieve his mental distress, he grew steadily worse. He became constantly silent and depressed and suffered much from delusions of fear and apprehension. Nothing has been heard from him since his discharge.

From these illustrative cases it is evident that we are not justified in attaching the title, "confusional insanity," to such cases as a whole. Cases of the first and second class, in which we have shock or a special poison acting upon the nervous centres, as might be expected, generally display mental confusion, incoherence, and even excitement. Patients of the third class, however, are much more apt to have systematized delusions of apprehension and melancholic symptoms. I have taken some pains to examine the histories of patients to ascertain the form of disease present in the reported cases of post-febrile insanity.

Out of 23 cases whose histories have been fully reported, 11 were of typhoid fever; in four of these insanity developed during the fever, generally in the form of delirium; and in seven, after the fever was over. In seven out of the 11, there were delusions of distrust and apprehension. In one there were delusions of grandeur; and in the remainder, marked mental enfeeblement. Eight recovered; two died; and one did not recover. Two were cases of pneumonia; in one of whom the disease developed during the attack, and in the other, subsequently. One had violent delirium; the other, delusions of apprehension; both recovered after a tedious illness. Nine of the 23 cases were surgical. In these, mental disturbances generally developed about the ninth day; although in one it was at the sixth, and in another at the twenty-first. In five cases there was depression, and in four excitement; four recovered; four died and one did not recover.

Symptomatology.—We now come to a point where in my judgment all the divergence of opinion which has arisen among writers upon “post-febrile insanity” begins.

There has been a confusion of the stages of delirium with the following insanity; and the confounding of two conditions, which may be related, but are not necessarily so, has caused some writers to consider these groups of cases as identical. Some writers, like H. C. Wood, believe the condition to be wholly due to anæmia and nervous exhaustion; while others, like Korsakoff, regard it an essentially toxæmic condition due to a special poison, such as is developed in beri-beri, multiple neuritis, la grippe, etc., which gives rise to mental confusion, delirium and delusions of apprehension. In all probability, neither view should obtain exclusively. The insanity in many cases is due to shock, anæmia and nervous exhaustion, and the manifestations are generally in delusions of a depressing character. These delusions, even in this class of cases, are not invariably so; because temperament, organization and nervous constitution generally have much to do with the form of mental manifestations, even when the underlying condition of the nervous system seems the same. In other words, of two persons of a seemingly identically exhausted state of the nervous system, one will display delusions of fear and apprehension, and the other will be wildly excited; one may have an inhibition, and the other an exaltation of mental function with extravagant delusions. The governing cause of these differences in symptoms must be the original brain constitution of the individual. There is, however, a distinction between delirium and insanity which ought not to be lost sight of. The essential feature of delirium is mental confusion. Mental concepts arise in the mind in a disordered, illogical manner, and ideas crowd upon each other for expression until all coherence is lost and the mind becomes a rapidly-moving panorama with shifting scenes. Delirium is especially the product of all toxæmic conditions; as is well illustrated by the delirium which follows iodoform, atropia or salicylic acid intoxications. Such delirium, fortunately, is generally of brief duration and disappears with convalescence; but this is not invariably the case, and the morbid mental conceptions may subsequently give rise to systematized delusions. I recall very distinctly a case of chronic insanity, in which the dominant delusion had its origin in the delirium of typhoid fever. When the stage of delirium is not recovered from, and systematized insanity results, there is generally developed great mental confusion along with the insanity; but the association seems almost accidental and to be attributed to the delirium, and not an integral or necessary part of the mental disease. When insanity develops after a fever or other acute disease, mental confusion is not a prominent feature.

Heredity.—Heredity plays an important part. Persons who have an insane or neurotic heredity are more apt to develop delirium or insanity after any exciting cause. Their nervous systems are more impressible and their brain resistance

to disturbing influence is diminished. I do not share the opinion of Glover⁹ that heredity is an essential element in the production of post-febrile insanity; because many cases exist where no such heredity can be found.

Prognosis.—In the prognosis of this form of disease much difference of opinion prevails. Physicians who see these cases in general practice regard the prognosis as favorable. Alienists and asylum physicians who see only those which seem to require asylum care by reason of violence of symptoms or their long continuance regard the prognosis as unfavorable. It is possible that alienist physicians see only the more severe cases and hence do not take a sufficiently hopeful view. It is possible also that some of those who are regarded as recovered by physicians in general practice, do not, in fact, recover, but eventually develop fixed delusions and mental impairment. From the histories which I have gathered it is pretty evident that some so-called recovered patients were really much enfeebled in mind. Dr. Brush, of the Sheppard Asylum, has mentioned to me the case of a patient who had active delirium during the stage of fever, from which after a tedious convalescence he apparently recovered, but developed, within six months, parietic symptoms. Many other similar cases undoubtedly exist.

Treatment.—From what has been said it is apparent that prolonged delirium adds to the gravity of the subsequent insanity. Hence it is desirable to guard against this as much as possible. For this reason I believe the "Brand treatment" of typhoid fever with cold baths to be especially valuable. It is remarkable how few of the patients who have received such baths develop acute head symptoms and how well the nervous system seems to throw off the effect of the poison. If delirium can be prevented, a factor in the subsequent development of insanity may thus be removed. Something can also be done by rest, quiet and nutrition to prevent the disordered mental manifestations which follow the fever. It is desirable that these patients should not sit up prematurely, and that their feeble strength be not exhausted by company or mental strain. I am of the opinion that the determining element in the production of insanity in some cases is too prolonged abstinence from food. Each case should be carefully watched and food should be resumed as soon as the patient can endure it. Thus much for prophylaxis. For the treatment of the developed disease, rest, quiet, nutrition, remedies to procure sleep, massage, good nursing and careful personal attention, are required. As a rule I would not advise a resort to asylum treatment, because dangerous tendencies are not apt to develop and the step is not imperatively necessary. If, however, it is evident that the case is to run a tedious course, and especially if retention at home is likely to necessitate mechanical restraint, great personal hardships to friends, or confinement to narrow and uncomfortable city rooms, I would advise a transfer to an asylum.

In conclusion, I would say that in my judgment it is desirable that the term "post-febrile" should be restricted to those insanities which follow exhausting diseases, like typhoid and the exanthematous fevers, surgical operations, etc. It should not include the toxic conditions which give rise to prolonged delirium, nor should the name "confusional insanity" be substituted for it, as this element arises from the delirium and is much more applicable to the latter conditions. I would retain the term, post-febrile insanity, and add confusional insanity, to more accurately describe the insanities which arise during the delirium of active disease.

1. Cliniques Medicales, T. I., 1834 (Obs., 53).

2. Maladies Mentales, T. I., p. 73, 1839.

3. Simon—Journal des Connaissances, etc.—quoted in Annales Medico—Psychologiques, T. IV., 1844.

4. Remarques sur le Delire consecutive aux Fleures Typhoides—Annales Medico—Psychologiques, 1845.

5. Thore—Annales Medico—Psychologiques, T. VI., 1846.

6. Clouston—Clinical Lectures on Mental Disease, p. 599, 1883.

7. Wood—University Medical Magazine, Dec., 1889.

8. Korsakoff—Allgemeine Zeitschr. f. Psychiatrie, 1889, XLVI, Bd. H. 4, p. 475 (Psychosis Polyneuritica sen cerebropathica psychica toxæmica.)

9. Glover—La folie et la fièvre typhoïde, Paris Thesis, 1891.



